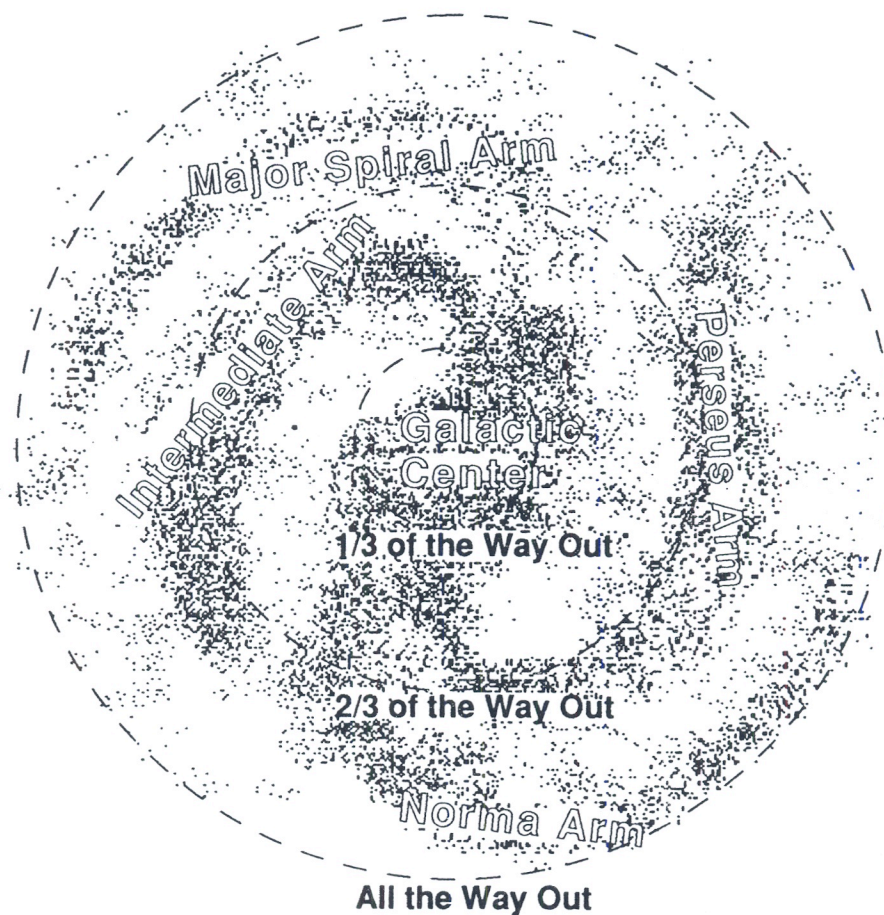


Note-taking Worksheet (continued)**Section 4 Galaxies and the Universe**

- A. _____—gravity holds together a large collection of stars, gas, and dust
1. Earth galaxy is Milky Way which is part of a galaxy cluster named the _____
 2. _____—spiral arms wind out from inner section; some have barred spirals with stars and gas in a central bar
 3. _____—large, three-dimensional ellipses; most common shape
 4. _____—smaller, less common galaxies with various different shapes
- B. The Milky Way Galaxy—usually classified as a _____
1. Contains more than 200 _____ stars
 2. About 100,000 light-years _____
 3. Sun orbits galaxy's core every 240 million years
- C. Theories on the _____ of the universe
1. _____—universe has always existed just as it is now
 2. _____—universe expands and contracts repeatedly over time
- D. Universe is _____
1. _____ light changes as it moves toward or away from an object
 - a. Starlight moving toward Earth shifts to _____ end of spectrum
 - b. Starlight moving away from Earth shifts to _____ end of spectrum
 2. All galaxies outside the Local Group indicate a red shift in their spectra indicating they are moving _____ Earth
- E. _____—holds that universe began 12 to 15 billion years ago with huge explosion that caused expansion everywhere at the same time
1. Galaxies more than 10 _____ light-years away give information about a young universe
 2. The universe may eventually _____ expanding and begin _____

Galactic Address Map 9: The Milky Way Galaxy

Please mark where your world is.



My Planet System:

Please write your complete galactic address below.

Your Name:

1. Classroom:

2. School:

3. Street & #:

4. City:

5. State:

6. Country:

7. Planet:

8. Planet System:

9. Galactic Arm:

10. Galaxy:

11. Galaxy Cluster: